Partners in UK offshore wind

MONA OFFSHORE WIND PROJECT

Preliminary Environmental Information Report

Volume 3, chapter 23: Air Quality

Image of an offshore wind farm

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FINAL

Document status

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Glossary

Term	Meaning
Annoyance (dust)	Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance.
AQMA	Air Quality Management Area, declared by a local authority where its review and assessment of air quality shows that an air quality objective is likely to be exceeded.
Construction	Any activity involved with the provision of a new structure (or structures), its modification or refurbishment. A structure will include a residential dwelling, office building, retail outlet, road, etc.
Demolition	Any activity involved with the removal of an existing structure (or structures). This may also be referred to as de-construction, specifically when a building is to be removed a small part at a time.
Deposited Dust	Dust that has settled out onto a surface after having been suspended in air
DMP	Dust Management Plan: a document that describes the site-specific methods to be used to control dust emissions.
Dust	Solid particles suspended in air or settled out onto a surface after having been suspended in air
Earthworks	Covers the processes of soil-stripping, ground-levelling, excavation, and landscaping.
Trackout	The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network

Acronyms

Acronym	Description
AADT	Annual Average Daily Traffic Flow
ADMS	Atmospheric Dispersion Modelling System
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
CoCP	Code of Construction Practice
Defra	Department for Environment, Food & Rural Affairs
DMP	Dust Management Plan
EPUK	Environmental Protection UK
HDV	Heavy Duty Vehicle
HGV	Heavy Goods Vehicle
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
NGET	National Grid Electricity Transmission
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
PM_{10}	Particulate matter with diameters of 10 micrometres or smaller
$PM_{2.5}$	Particulate matter with diameters of 2.5 micrometres or smaller
R&A	Review and Assessment
SSSI	Site of Special Scientific Interest
TG	Technical Guidance

Units

Unit	Description
%	Percentage
km^2	Square kilometres
m	Metre
$\mu g.m^{-3}$	Microgram per cubic metre
m^3	Cubic metres
m^2	Square metres
mm	Millimetre

23 Air Quality

23.1 Introduction

23.1.1 Overview

23.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the assessment of the potential impact of the Mona Offshore Wind Project on air quality. Specifically, this chapter considers the potential impact of the Mona Offshore Wind Project landward of Mean High Water Springs (MHWS) during the construction, operations and maintenance, and decommissioning phases.

23.1.1.2 Given the nature of the Mona Offshore Wind Project, it is considered that only the onshore elements located within the Mona Proposed Onshore Development Area have the potential to impact on air quality.

23.1.1.3 Therefore, this chapter does not consider the potential impacts on air quality arising from the construction, operations and maintenance, and decommissioning phases of the offshore elements.

23.1.1.4 This chapter of the PEIR also considers the potential for cumulative effects between the Mona Offshore Wind Project and other proposed developments. This has been reported in section 23.9 of this chapter below.

23.1.1.5 In addition, this chapter is informed by the following technical chapters of the PEIR, where relevant:

- volume 1, chapter 3: Project description of the PEIR
- volume 3, chapter 18: Onshore ecology of the PEIR
- volume 3, chapter 24: Onshore and intertidal ornithology of the PEIR
- Volume 3, chapter 21: Traffic and transport of the PEIR
- Volume 4, chapter 30: Human health of the PEIR.

23.1.2 Purpose of chapter

23.1.2.1 The primary purpose of the PEIR is outlined in volume 1, chapter 1: Introduction of the PEIR. In summary, the primary purpose of an Environmental Statement is to support the Development Consent Order (DCO) application for Mona Offshore Wind Project under the Planning Act 2008 (the 2008 Act). The PEIR constitutes the Preliminary Environmental Information for Mona Offshore Wind Project and sets out the findings of the EIA to date to support the pre-application consultation activities required under the 2008 Act. The EIA will be finalised following completion of pre-application consultation and the Environmental Statement will accompany the application to the Secretary of State for Development Consent.

23.1.2.2 The PEIR forms the basis for statutory consultation which will last for 47 days and conclude on 4th June 2023. At this point, comments received on the PEIR will be reviewed and incorporated (where appropriate) into the Environmental Statement, which will be submitted in support of the application for Development Consent scheduled for quarter one of 2024.

23.1.2.3 In particular, this PEIR chapter:

- Presents the existing environmental baseline established from desk studies and consultation.
- Identifies any assumptions and limitations encountered in compiling the environmental information.
- Presents the potential environmental effects on air quality arising from the Mona Offshore Wind Project, based on the information gathered and the analysis and assessments undertaken.
- Highlights any necessary monitoring and/or mitigation measures which could prevent, minimise, reduce or offset the possible environmental effects of the Mona Offshore Wind Project on air quality.

23.1.3 Study area

23.1.3.1 Guidance on the assessment of dust from demolition and construction (Institute of Air Quality Management (IAQM), 2014) indicates that there could potentially be nuisance dust and particulate matter (PM) with diameters of 10 micrometres or smaller (PM_{10}) effects on human heath receptors located within 350m of onsite construction activities and ecological receptors located within 50m of onsite construction activities.

23.1.3.2 As such, the air quality study area has been defined with respect to construction dust and covers an area up to 350m around the Mona Proposed Onshore Development Area.

23.1.3.3 The location and geographic extent of the air quality study area used to inform the air quality assessment is presented in Figure 23.1 below.

23.1.3.4 At this stage, the vehicle movements generated by construction activities and their associated routes, as set out in volume 3, chapter 21: Traffic and transport chapter, are not fixed and likely subject to change post-PEIR. Therefore, the potential risk of tracked out dust will be considered as part of the Environmental Statement and the air quality study area will be increased to 500m from construction site entrances accordingly within the Environmental Statement.

23.1.3.5 There may also be air quality effects associated with emissions arising from construction-related traffic. As set out above, traffic generated during construction of the Mona Offshore Wind Project is not fixed at this stage. However, the potential air quality effects associated with emissions from construction traffic will be assessed as part of the Environmental Statement.

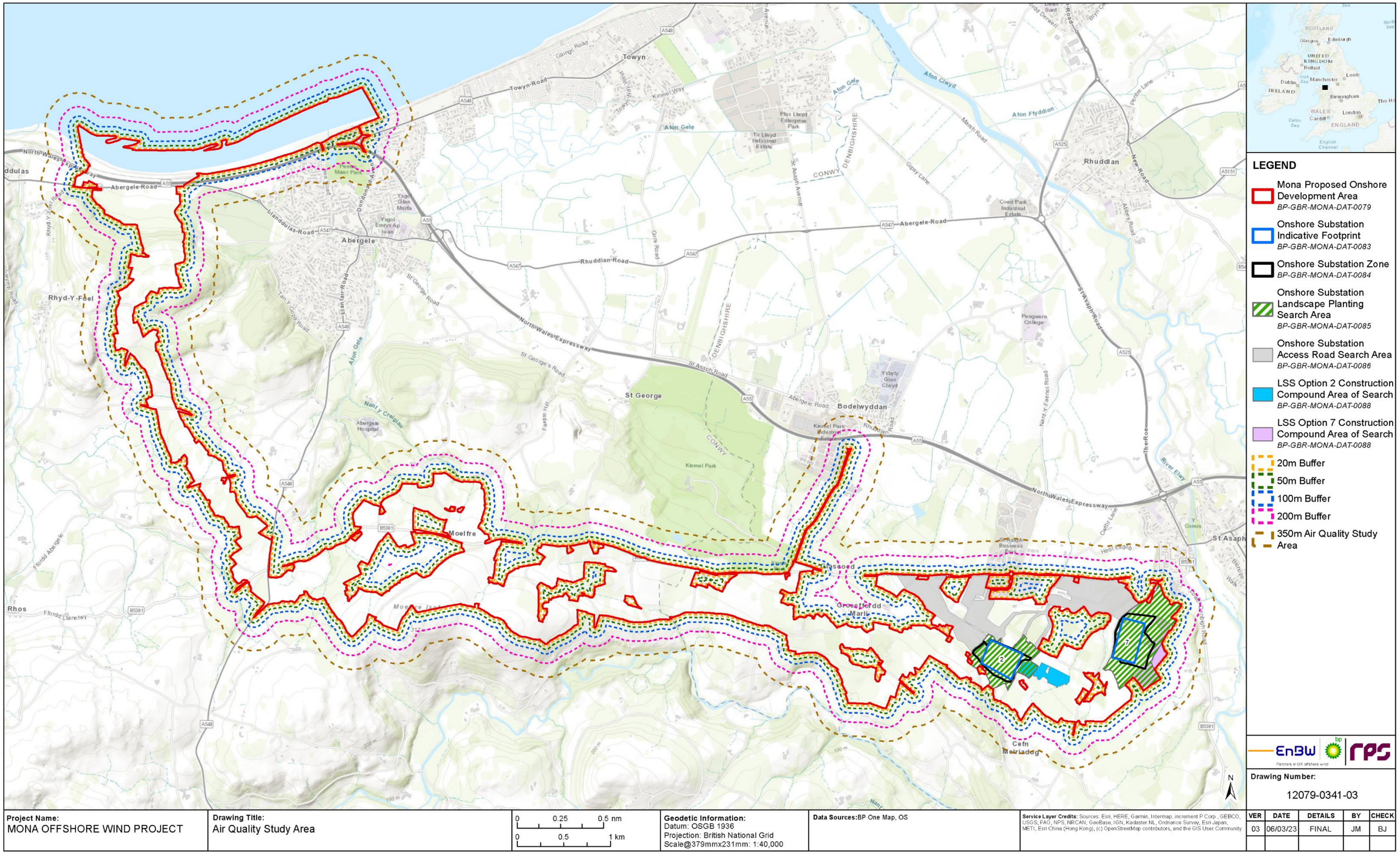

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Figure 23.1: Air quality study area.

23.2 Statutory and Policy context

23.2.1 Air Quality Standards Regulations

23.2.1.1 The Air Quality Standards Regulations 2010, as amended by The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020, sets limit values for ambient air concentrations for the main air pollutants: particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide (NO_2), sulphur dioxide (SO_2), ozone (O_3), carbon monoxide (CO), lead (Pb) and benzene, certain toxic heavy metals (arsenic, cadmium, and nickel) and polycyclic aromatic hydrocarbons (PAHs).

23.2.1.2 These limit values are legally binding on the Secretary of State. The UK Government and devolved administrations operate various national ambient air quality monitoring networks to measure compliance and develop plans to meet the set limit values for the main air pollutants.

23.2.2 UK Air Quality Strategy

23.2.2.1 The Environment Act 1995 established the requirement for the Government and the devolved administrations to produce a National Air Quality Strategy (AQS) for improving ambient air quality, the first being published in 1997 and having been revised several times since, with the latest published in 2007 (Defra, 2007).

23.2.2.2 The National AQS sets UK air quality standards[1] and objectives[2] for the pollutants in the Air Quality Standards Regulations plus 1,3-butadiene, and recognises that action at national, regional and local level may be needed, depending on the scale and nature of the air quality problem. There is no legal requirement to meet objectives set within the UK AQS except where equivalent limit values are set within the Air Quality Standards Regulations.

23.2.2.3 The Environment Act 1995 also established the UK system of Local Air Quality Management (LAQM), that requires local authorities to go through a process of review and assessment of air quality in their areas, identifying places where objectives are not likely to be met, then declaring Air Quality Management Areas (AQMAs) and putting in place Air Quality Action Plans to improve air quality. These plans also contribute, at local level, to the achievement of the limit values in the Air Quality Standards Regulations.

23.2.2.4 The limit values and objectives relevant to this assessment are summarised in Table 23.1 of this chapter below. Where the limit values and the AQS objectives differ, the more stringent objective/limit value has been used.

Table 23.1: Summary of relevant air quality limit values and objectives.

Pollutant	Averaging period	Objectives/ Limit Values (micrograms per cubic metre, $\mu g.m^{-3}$)	Not to be exceeded more than
Nitrogen Dioxide (NO_2)	1 hour	200 $\mu g.m^{-3}$	18 times per calendar year
	Annual	40 $\mu g.m^{-3}$	-
Particulate Matter (PM_{10})	24 Hour	50 $\mu g.m^{-3}$	35 times per calendar year
	Annual	40 $\mu g.m^{-3}$	-
Particulate Matter ($PM_{2.5}$)	Annual	20 $\mu g.m^{-3}$	-

23.2.3 National Policy Statements

23.2.3.1 Planning policy on renewable energy infrastructure is presented in volume 1, chapter 2: Policy and legislation of the PEIR. Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to air quality, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a), and the NPS for Renewable Energy Infrastructure (EN-3, DECC, 2011b).

23.2.3.2 NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the assessment. These are summarised in Table 23.2 below. NPS EN-3 also highlights factors relating to the determination of an application and in relation to mitigation. These are summarised in Table 23.2 below.

23.2.3.3 Table 23.2 refers to the current NPSs, specifically NPS EN-1 (DECC, 2011a). If the NPSs are updated prior to the application for Development Consent, the revised NPSs will be fully considered in relation to air quality within the Environmental Statement.

Table 23.2: Summary of the NPS EN-1 and NPS EN-3 provisions relevant to air quality.

Summary of EN-1 provision	How and where considered in the PEIR
NPS EN-1 includes generic guidance on the assessment of air quality impacts for major energy projects: *"Where the project is likely to have adverse effects on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the Environmental Statement."* (paragraph 5.2.6 of NPS EN-1). This requires the Environmental Statement to describe: *"Any significant air emissions, their mitigation and any residual effects, distinguishing between the project stages and taking account of any*	The potential air quality impacts which may arise during construction and decommissioning of the Mona Offshore Wind Project have been described and considered within this chapter. This chapter focuses on the potential impacts from dust generated during construction of the Mona Offshore Wind Project and considers mitigation and residual effects. At this stage, the vehicle movements generated by construction activities and their associated routes, as set out in volume 3, chapter 21: Traffic and transport chapter, are not fixed and likely subject to change post-PEIR. Therefore, potential risk of tracked out dust will be considered as part of the Environmental Statement and the air quality study area will be increased to 500m from construction site entrances.

[1] Standards are concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. Standards, as the benchmarks for setting objectives, are set purely with regard to scientific evidence and medical evidence on the effects of the particular pollutant on health, or on the wider environment, as minimum or zero risk levels.

[2] Objectives are policy targets expressed as a concentration that should be achieved, all the time or for a percentage of time, by a certain date.

Summary of EN-1 provision	How and where considered in the PEIR
significant emissions from any road traffic generated by the project; the predicted absolute emission levels of the proposed project, after mitigation methods have been applied; existing air quality levels and the relative change in air quality from existing levels; and any potential eutrophication impacts." (paragraph 5.2.7 of NPS EN-1).	There may also be air quality effects associated with emissions from traffic generated during construction of the Mona Offshore Wind Project. However, traffic generated during the construction phase is not available at this stage. This will be assessed within the Environmental Statement, through dispersion modelling using traffic data to quantify the potential impact of the Mona Offshore Wind Project.
NPS EN-1 and NPS EN-3 refer to NPS EN-5 as the primary guidance document in relation to onshore grid connection infrastructure. Air quality is not identified as a key impact for such infrastructure within either NPS EN-5 or the offshore wind farm section of NPS EN-3.	The potential air quality impacts which may arise during construction of the Mona Offshore Wind Project have been described and considered within this chapter. This chapter focuses on the potential impacts arising from dust generated during construction of the Mona Offshore Wind Project and considers suitable mitigation measures and identifies residual effects.

Table 23.3: Summary of NPS EN-1 and NPS EN-3 policy on decision making relevant to air quality.

Summary of EN-3 provision	How and where considered in the PEIR
*EN-3 states that "Where the applicant has identified a precise route for the cable from the wind farm to a precise location for the onshore substation and connection to the transmission network, the EIA should assess the effects of the cable." (*EN-3 paragraph 2.6.37*).* This guidance applies to all the disciplines within the EIA and is not specific to air quality impact assessment.	This air quality assessment considers potential impacts of dust on sensitive receptors located within the air quality study area.

23.2.4 National Planning Policy

23.2.4.1 Current land use policies set out the land use planning policies of the Welsh Government and is intended to provide a strategic policy framework to assist local authorities in the preparation of their development plans. Planning Policy Wales (PPW) Edition 11 (Welsh government, 2021) is supported by 24 Technical Advice Notes (TANs) which give further guidance on specific topics.

23.2.4.2 Procedural advice is also given in the National Assembly for Wales/Welsh Office topic. Procedural advice is also given in the National Assembly for Wales/Welsh Office Circulars. Planning authorities may use planning conditions or obligations to meet planning aims to protect the environment. PPW, the TANs and Circulars may be material to decisions made on individual planning applications and will be considered by the Secretary of State and his Inspectors in the determination of called-in planning applications and appeals.

23.2.4.3 Section 6.7 of PPW concerns Air Quality and Soundscape. Most relevant to this assessment, it states that: "*Planning authorities must consider the potential for temporary environmental risk, including airborne pollution and surface and subsurface risks, arising during the construction phases of development. Where appropriate planning authorities should require a construction management plan, covering pollution prevention, noisy plants, hours of operation, dust mitigation and details for keeping residents informed about temporary risks."*

23.2.4.4 PPW recognises that transport emissions contribute significantly to climate change and poor local air quality, which can in turn affect people's health. TAN 18: Transport (Welsh Government, 2007) elaborates further on traffic growth and its implications on the UK's ability to meet objectives for greenhouse gas emissions and for air quality. It advises that local planning authorities should consider statutory air quality objectives together with the outcomes of reviews and assessments for any Air Quality Action Plans that may have been prepared.

Clean Air Strategy and Clean Air Plan for Wales

23.2.4.5 The Clean Air Strategy 2019 (Defra, 2019) sets out actions that the UK Government intends to take to reduce emissions arising from transport, in the home, from farming and from industry.

23.2.4.6 The Clean Air Plan for Wales (Welsh Government, 2020) aims to improve air quality and reduce the impacts of air pollution on human health, biodiversity, the natural environment, and our economy. The Clean Air Plan for Wales sets out a 10 year pathway to achieving cleaner air and is structured around four core themes:

- People – Protecting the health and well-being of current and future generations
- Environmental – Taking action to support our natural environment, ecosystems, and biodiversity
- Prosperity- working with industry to reduce emissions, supporting a cleaner and more prosperous Wales
- Place – Creating sustainable places through better planning, infrastructure and transport.

23.2.5 Local Planning Policies

23.2.5.1 The assessment of potential changes to air quality has also been made with consideration to specific policies set out in the Conwy Local Development Plan 2007-2022 (Conwy County Borough Council, 2013) and Denbighshire County Council Local Development Plan 2006-2021 (Denbighshire County Council, 2013). These local planning policies are set out in Table 23.4 below. There are no planning policies relevant to air quality in the Denbighshire County Council Local Development Plan.

23.2.5.2 However, Denbighshire County Council is currently preparing a replacement Local Development Plan to supersede the adopted Denbighshire County Council Local Development Plan 2006-2021, which expired in December 2021. The Local Development Plan 2006-2021 LDP Review Report (December 2017) (Denbighshire County Council, 2017) sets out several key sustainability issues to be considered by the replacement LDP which include objectives to protect and improve air quality.

Table 23.4: Local Planning Policy of relevant to Air Quality.

Policy	Key provisions	How and where considered in the PEIR
Conwy Strategic Policy DP/1	Protect the quality of natural resources including water, air, and soil in line with Strategic Policy NTE1	The risk of dust impacts arising during construction of the Mona Offshore Wind Project has been assessed and the measures to prevent, reduce and protect the surrounding area are set out in this chapter.
Conwy Strategic Policy NTE/1	Prevent, reduce, or remedy all forms of pollution, including air, light, noise, soil and water.	

23.2.6 Consultation

23.2.6.1 A summary of the key issues raised during consultation activities undertaken to date specific to air quality is presented in Table 23.5 below, together with how these issues have been considered in the production of this PEIR chapter.

23.2.6.2 In addition, agreement will be sought regarding the methodology and scope of the air quality assessment, including mitigation requirements through consultation with Environmental Health Officers from relevant local authorities (if required) following submission of the PEIR.

Table 23.5: Summary of key consultation issues raised during consultation activities undertaken for the Mona Offshore Wind Project relevant to air quality.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
June 2022	The Planning Inspectorate - Scoping Opinion	The Inspectorate agrees that the activities associated with the operation and maintenance of the onshore transmission assets are unlikely to generate large quantities of dust and therefore it is unlikely that any likely significant effect will arise in relation to humans and ecological receptors. As such, this can be scoped out of the ES.	Impacts arising from operations and maintenance of the Mona Offshore Wind Project have been scoped out of the air quality assessment.
June 2022	The Planning Inspectorate - Scoping Opinion	The Inspectorate agrees that it is unlikely that there would be a significant change in vehicle flows during operation and maintenance and therefore it is also unlikely that significant effects would occur in respect of air quality. However, the ES should confirm that the anticipated road vehicle movements are below the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) screening values, and if values are exceeded then an assessment of likely significant effects should be provided.	Traffic generated during the operation and maintenance phase is not available at this stage. The anticipated traffic movements during operation and maintenance in relation to the IAQM and EPUK screening values will be confirmed in the Environmental Statement.
June 2022	The Planning Inspectorate - Scoping Opinion	The Proposed Development does not include proposals for the construction of plants or stacks and therefore air emissions arising from these components are unlikely to arise during the operational and maintenance phase. For this reason, the Inspectorate agrees this can be scoped out of the ES.	Impacts arising from operations and maintenance of the plants and stacks have been scoped out of the air quality assessment.
June 2022	Environmental Public Health Service Wales - Scoping Response	It is important to mitigate and minimise public exposure as much as possible to these non-threshold air pollutants so as to not create, or further add to, health inequalities. We encourage this to be considered in detail during design, development, construction, and operation of the purposed activity	A construction dust assessment has been undertaken to identify appropriate mitigation measures necessary to minimise dust impacts arising during construction of the Mona Offshore Wind Project. Impacts arising from trackout and construction traffic emissions will be considered in the Environmental Statement.

23.3 Baseline environment

23.3.1 Methodology to inform baseline

23.3.1.1 During the construction and decommissioning phases of the Mona Offshore Wind Project, the key pollutant for the purpose of this air quality assessment is dust. This includes both the suspended particulate matter (PM_{10}) fraction in the air that can be breathed, and the deposited dust that has fallen out of the air onto surfaces, which can potentially cause temporary annoyance effects.

23.3.2 Desktop study

23.3.2.1 A large proportion of the total pollutant concentration is usually made up of the background concentration. It is therefore important that the background concentration selected for the assessment is realistic to avoid inaccurate results.

23.3.2.2 Such background data may come from local monitoring studies or from national or government data sources, including the Department for Environment, Food & Rural Affairs (Defra) UK AIR Air Information Source national pollution maps.

23.3.2.3 Local Air Quality Management (LAQM) Technical Guidance (TG22) (Defra, 2022) recommends that Defra mapped concentration estimates are used in the first instance to inform background concentrations in air quality modelling. For this air quality assessment, the baseline air quality has been determined using Defra's mapped concentration estimates data, which are set out in Table 23.6 below.

Table 23.6: Summary of key desktop reports.

Title	Source	Year	Author
North Wales Authorities Collaborative Project 2021 Air Quality Progress Report (Wood, 2021)	Denbighshire County Council website	2021	Wood
Defra projections of pollutant concentrations for years from 2018 to 2030 for each 1km grid square in the UK (Defra, 2018)	UK Air Information Source - Background Mapping data for local authorities - 2018	2018	Defra

23.3.3 Site specific surveys

23.3.3.1 The baseline characterisation provided by the desktop survey is considered sufficient to inform the assessment of construction dust; site specific surveys are not considered necessary at this stage.

23.3.3.2 This is in-line with the proposed approach as set out in the Mona Offshore Wind Project Scoping Report (bp/EnBW, 2022) which listed the *"2018- based background mapping data for NO2, PM10 and PM2.5*" and *"Air Quality Progress Reports and Annual Status Reports (ASRs)"* as a baseline data source.

23.3.4 Baseline environment

23.3.4.1 This section reviews the existing air quality conditions within the air quality study area using the baseline data sources identified in Table 23.6 above.

23.3.4.2 There are no designated Air Quality Management Areas (AQMAs) within the air quality study area as concentrations of all pollutants (including PM_{10}) are below the relevant objectives and limit values within the local authority areas of Conwy County Borough Council and Denbighshire County Council.

23.3.4.3 For this air quality assessment, the background air quality has been characterised by drawing upon information provided in the North Wales Authorities Collaborative Project 2021 Air Quality Progress Report (Wood, 2021), and Defra projections of pollutant concentrations for years from 2018 to 2030 for each km grid square in the UK (Defra, 2018).

23.3.4.4 A detailed description of how the baseline air quality within the air quality study area has been derived for this air quality assessment is summarised in the following sections of this chapter.

Review and assessment process

23.3.4.5 Neither Conwy County Borough Council nor Denbighshire County Council has designated an AQMA, indicating that air quality within the air quality study area falls below the relevant objectives and limit values for the main air pollutants.

Local Monitoring

23.3.4.6 There is no local monitoring of PM_{10} concentrations within the local authority areas of Conwy County Borough Council or Denbighshire County Council. The nearest PM_{10} monitoring is in the Isle of Anglesey and Wrexham. The most recently monitored (prior to the COVID-19 pandemic) concentrations at the rural and roadside monitoring locations and the Defra mapped concentrations are set out in Table 23.7 below.

Table 23.7: Automatically monitored annual-mean PM_{10} concentrations.

Site ID	Site Type	Distance from Site (km)	PM_{10} concentrations				
			2016	2017	2018	2019	Defra
CM2 Brynteg	Rural	44	8.1	11.0	10.1	14.0	9.8
CM4 Penhesgyn	Rural	38	-	8.1	9.5	13.0	9.3
Wrexham Automatic Urban and Rural Network (AURN)	Roadside	38	-	-	-	12.0	11.7

Appropriate background concentrations for the air quality study area

23.3.4.7 Table 23.7 shows that the Defra mapped background concentration estimates at CM2 and CM4 are within the range of results from monitoring. At the Wrexham AURN the Defra mapped background concentration estimate is almost identical to the measured concentration. This indicates that the Defra mapped concentrations are a reasonable estimate of concentrations in the area. The Defra mapped background (Defra, 2018) estimates across the site range from 9.1 to 9.8 micrograms per cubic metre ($\mu g.m^{-3}$). On that basis, the background PM_{10} concentration used in the air quality assessment has been derived from the highest Defra mapped background concentration estimate of 9.8 $\mu g.m^{-3}$.

Future baseline scenario

23.3.4.8 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) requires that, as well as a description of the current baseline, the Environmental Statement must include "*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*".

23.3.4.9 With UK-wide initiatives such as those set out in the Clean Air Strategy and Clean Air for Wales, air quality is likely to improve over time. As such, to ensure that the assessment presents conservative results, no reduction in the background concentration has been assumed in future years.

Data limitations

23.3.4.10 In the absence of local monitoring, the background PM_{10} concentration has been drawn from Defra's mapped background concentration estimates. Whilst this does not provide a site-specific concentration, the published information provides a sufficient level of detail to enable the assessment of the impact risk arising from dust generated during construction of the Mona Offshore Wind Project to be predicted robustly.

23.4 Impact assessment methodology

23.4.1 Construction Phase

Construction Traffic

23.4.1.1 Details of construction-related vehicle movements are not currently fixed at this stage but will be assessed within the air quality chapter of the Environmental Statement. Notwithstanding, the Environmental Protection UK (EPUK) and IAQM Land-Use Planning & Development Control: Planning for Air Quality guidance document (EPUK and IAQM, 2017) provides the following threshold criteria for determining when an air quality assessment should be undertaken:

- Roads within an AQMA:
  - an increase in annual average daily Light Duty Vehicle (LDV) flows by more than 100
  - an increase in annual average daily Heavy Duty Vehicle (HDV) flows by more than 25.
- Roads outside of an AQMA:
  - an increase in annual average daily LDV flows by more than 500
  - an increase in annual average daily HDV flows by more than 100.

23.4.1.2 The EPUK & IAQM guidance document continues by stating that *"If none of the criteria are met then there should be no requirement to carry out an air quality assessment for the impact of the proposed development on the local area, and the impacts can be considered to have insignificant effects."*

23.4.1.3 Therefore, if the threshold criteria identified above are not exceeded, an assessment of construction-related vehicle movements will not be undertaken, and the effects will be considered not significant. However, if these criteria are exceeded, an assessment of construction-related vehicle movements will be undertaken as part of the air quality assessment in the Environmental Statement.

23.4.1.1 Table 21.15 of volume 3, chapter 21: Traffic and transport sets out the initial estimates of average daily construction vehicle movements during construction of the Mona Offshore Wind Project. Initial data is provided for the 23 road links located within the initial traffic and transport study area, which are all located outside of an AQMA. Therefore, as these road links are located outside of an AQMA, the higher threshold criteria of 500 LDVs and 100 HDV flows applies.

23.4.1.2 Table 21.15 of volume 3, chapter 21: Traffic and transport estimates an increase in heavy vehicles of between 29 and 140 per day. At 15 of the 23 road links considered, the estimated number of heavy vehicles is less than the 100 HDVs per day threshold set out above. Therefore only eight of the 23 road links would need to be assessed in as part of the air quality assessment. Therefore, these eight road links would be considered as part of the air quality assessment within the volume 3, chapter 23: Air quality of the Environmental Statement, following refinement of the traffic estimates.

23.4.1.3 When considering LDVs, Table 21.15 of volume 3, chapter 21: Traffic and transport estimates an increase of between 78 and 272 total vehicles (HDV and LDVs) per day. These estimates fall below the threshold criteria of 500 LDVs per day. Therefore, additional LDVs would not be considered in the air quality assessment of the Environmental Statement.

23.4.1.4 Taking the above information into account and based on the initial construction traffic flow estimates provided in volume 3, chapter 21: Traffic and transport, only eight road links would need to be considered in the air quality assessment of the Environmental Statement. These are as follows:

- Link 1 – A55 between Junctions 27 and 27a
- Link 2 – A55 between Junctions 27 and 26
- Link 3 – A55 between Junctions 26 and 25
- Link 8 – A547 through Llanddulas
- Link 9 – A547 between Llanddulas and Parc Busnes Gogledd Cymru
- Link 16 – B5381 Roman Road between Moelfre and Capel Carmel
- Link 17 – B5381 Roman Road between Capel Carmel and Roberts D a O

- Link 18 – B5381 Roman Road between Roberts D a O and Engine Hill.

Construction Dust

23.4.1.5 An assessment of the risk of the dust impacts during the construction phase on human-health and ecological receptors has been undertaken in accordance with the method set out in the Guidance on the assessment of dust from demolition and construction (IAQM, 2014).

23.4.1.6 The following types of activities during construction of the Mona Offshore Wind Project could result in fugitive dust emissions:

- Demolition of structures
- Earthworks
- Handling and disposal of spoil
- Wind-blown particulate material from stockpiles
- Handling of loose construction materials
- Movement of vehicles, both on and off site (trackout).

23.4.1.7 The level and distribution of construction dust emissions will vary according to factors, such as the type of dust, duration and location of dust-generating activity, weather conditions and the effectiveness of dust suppression methods.

23.4.1.8 The main effect of any dust emissions, if not mitigated, could be annoyance due to soiling of surfaces, particularly windows, cars and laundry. However, it is normally possible, following the implementation of proper control and good practice methods, to ensure that dust deposition does not give rise to significant adverse effects, although short-term events may occur (e.g. due to technical failure or exceptional weather conditions).

23.4.1.9 In accordance with Guidance on the assessment of dust from demolition and construction (IAQM, 2014), the following air quality assessment predicts the risk of dust impacts occurring on sensitive receptors identified within the air quality study area and recommends appropriate mitigation measures required to control the residual effects to a level that is considered “not significant” in EIA terms.

23.4.1.10 The number and distribution of vehicles generated during the construction phase is not fixed and has therefore not been assessed in this PEIR chapter. The potential impact of construction traffic will be assessed in the air quality chapter of the Environmental Statement.

Source magnitude

23.4.1.11 Guidance on the assessment of dust from demolition and construction (IAQM, 2014) gives examples of the dust emission magnitudes for demolition, earthworks, construction activities and track-out. These example dust emission magnitudes are based on the site area, building volume, number of HDV movements generated by the activities and the materials used.

23.4.1.12 These example magnitudes have been combined with the anticipated duration of construction activities to determine the ranking of source magnitude. The features of the source of dust emissions and associated dust emission magnitude are set out in Table 23.8 below.

Table 23.8: Risk allocation – source (magnitude of dust impacts).

Features of the source of dust emissions	Dust emission magnitude
Demolition – building over 50,000 cubic metres (m^3), potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities greater than 20m above ground level. **Earthworks** – total site area over 10,000 square metres (m^2), potentially dusty soil type (e.g. clay), greater than 10 heavy earth moving vehicles active at any one time, formation of bunds greater than 8m in height, total material moved greater than 100,000 tonnes. **Construction** – total building volume over 100,000m^3, activities include piling, on-site concrete batching, sand blasting. Period of activities more than two years. **Track-out** – 50 HDV outwards movements in any one day, potentially dusty surface material (e.g. High clay content), unpaved road length greater than 100m.	Large
Demolition – building between 20,000 to 50,000m^3, potentially dusty construction material and demolition activities 10 to 20m above ground level. **Earthworks** – total site area between 2,500 to 10,000m^2, moderately dusty soil type (e.g. silt), five to ten heavy earth moving vehicles active at any one time, formation of bunds 4 to 8m in height, total material moved 20,000 to 100,000 tonnes. **Construction** – total building volume between 25,000 and 100,000m^3, use of construction materials with high potential for dust release (e.g. concrete), activities include piling, on-site concrete batching. Period of construction activities between one and two years. **Track-out** – 10 to 50 HDV outwards movements in any one day, moderately dusty surface material (e.g. High clay content), unpaved road length 50 – 100m**.**	Medium
Demolition – building less than 20,000m^3, construction material with low potential for dust release (e.g. Metal cladding or timber), demolition activities less than 10 m above ground, demolition during winter months. **Earthworks** – total site area less than 2,500 m^2. Soil type with large grain size (e.g. sand), less than five heavy earth moving vehicles active at any one time, formation of bunds less than 4m in height, total material moved less than 10,000 tonnes earthworks during winter months. **Construction** – total building volume below 25,000m^3, use of construction materials with low potential for dust release (e.g. metal cladding or timber). Period of construction activities less than one year. **Track-out** – less than 10 HDV outwards movements in any one day, surface material with low potential for dust release, unpaved road length less than 50m.	Small

Pathway and receptor – sensitivity of the area

23.4.1.13 Pathway means the route by which dust and particulate matter may be carried from the source to a receptor. The main factor affecting the pathway effectiveness is the distance from the receptor to the source of dust. The orientation of the receptors to the source compared to the prevailing wind direction is a relevant risk factor for long-duration construction projects. However, short term construction projects may be limited to a few months when the most frequent wind direction might be quite different, so adverse effects can potentially occur in any direction.

23.4.1.14 Guidance on the assessment of dust from demolition and construction (IAQM, 2014) states that several attempts have been made to categorise receptors into high,

medium, and low sensitivity categories. However, there is no unified sensitivity classification scheme that covers the different types of potential effects on property, human health, and ecological receptors and so separate sensitivity categories are used for each of these effects. Table 23.9, Table 23.10 and Table 23.11 below set out the sensitivity of people, property, and ecological receptors to dust and PM_{10}, in accordance with IAQM guidance (IAQM, 2014).

Table 23.9: Sensitivities of people and property receptors to dust.

Receptor	Sensitivity
Principles: • Users can reasonably expect enjoyment of a high level of amenity • The appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods as part of the normal pattern of use of the land • Indicative examples: – Residential properties – Museums and other culturally important collections – Medium and long-term car parks and car showrooms.	High
Principles: • Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home • The appearance, aesthetics or value of their property could be diminished by soiling • The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. • Indicative examples: – Parks – Places of work.	Medium
Principles: • The enjoyment of amenity would not reasonably be expected • There is property that would not reasonably be expected to be diminished in appearance, aesthetics, or value by soiling • There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land • Indicative examples: – Playing fields – Farmland (unless commercially sensitive horticultural) – Footpaths – Roads – Short-term car parks.	Low

Table 23.10: Sensitivities of people and property receptors to PM_{10}.

Receptor	Sensitivity
Principles: • Locations where members of the public are exposed over a time period relevant to the air quality objective (in the case of the 24-hour objective for PM_{10}, a relevant location would be one where individuals may be exposed for eight hours or more in a day) • Indicative examples: – Residential properties – Schools, hospitals and residential care homes.	High
Principles: • Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective (in the case of the 24-hour objective for PM_{10}, a relevant location would be one where individuals may be exposed for eight hours or more in a day) • Indicative examples include: – Office workers – Shop workers • Generally excludes workers occupationally exposed to PM_{10} as protection is covered by Health and Safety at Work legislation.	Medium
Principles: • Locations where human exposure is transient. • Indicative examples: – Public footpaths – Playing fields – Parks – Shopping streets.	Low

Table 23.11: Sensitivities of ecological receptors to dust.

Receptor	Sensitivity
Principles: • Locations with an international or national designation and the designated features may be affected by dust soiling; or • Locations where there is a community of a particular dust sensitive species such as vascular plants included in the Red Data List for Great Britain. • Indicative Examples:- – Special Area of Conservation designated for acid heathlands adjacent to the demolition of a large site containing concrete (alkali) buildings or for the presence of lichen.	High

Receptor	Sensitivity
Principles: • Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or • Locations with a national designation where the features may be affected by dust deposition. • Indicative Examples:- – Site of Special Scientific Interest (SSSI) with dust sensitive features.	Medium
Principles: • Locations with a local designation where the features may be affected by dust deposition • Indicative Examples: – A Local Nature Reserve with dust sensitive features.	Low

23.4.1.15 The location human health receptors and ecological receptors within the air quality study area is presented in Figure 23.2 and Figure 23.3 of this chapter below respectively.

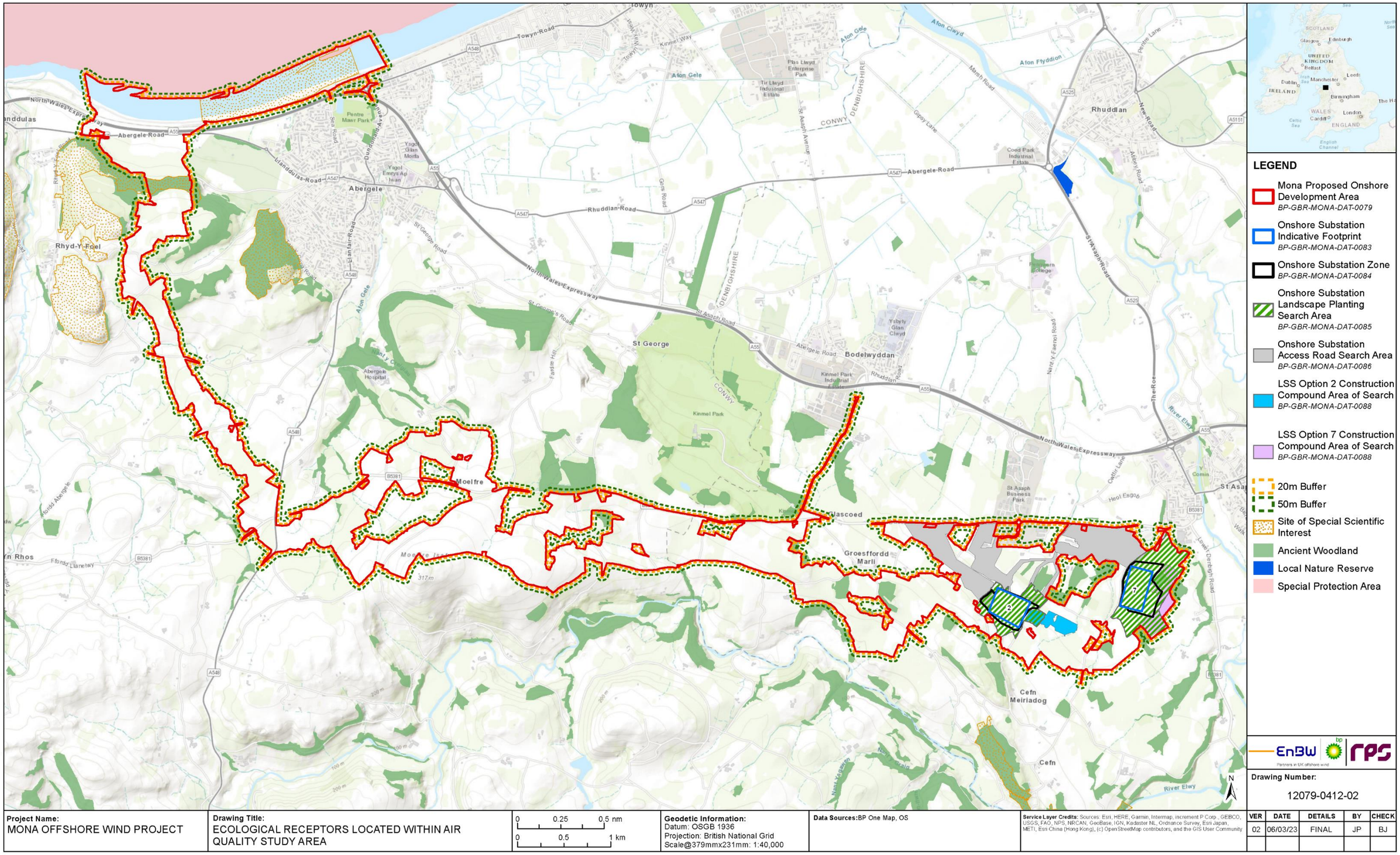

Figure 23.2: Ecological receptors located within the air quality study area.

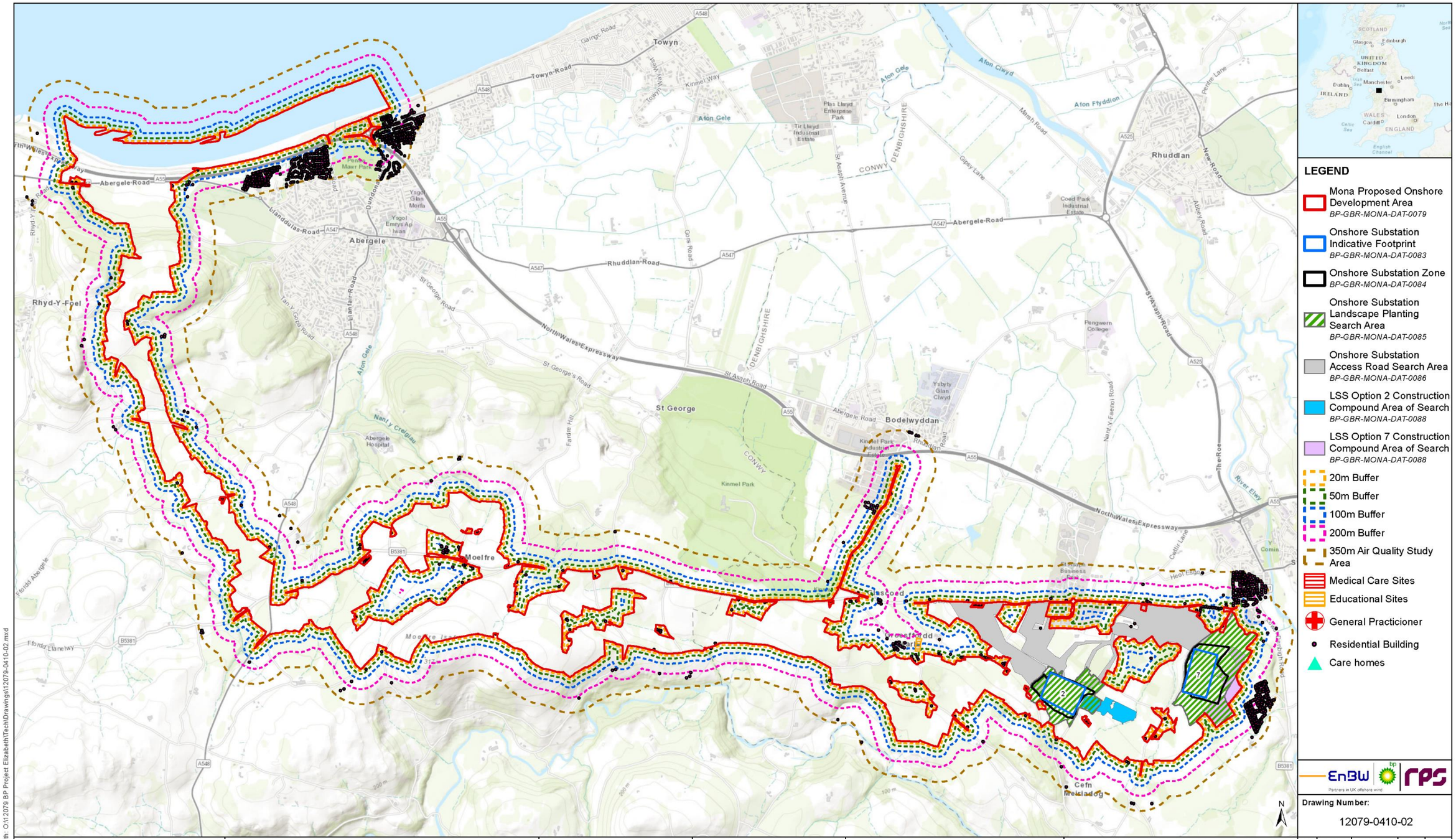

Figure 23.3: Human health receptors located within the air quality study area.

23.4.1.16 The IAQM methodology (IAQM, 2014) combines consideration of the pathway andreceptor to derive the sensitivity of the area. Table 23.12, Table 23.13 and Table 23.14 show how the sensitivity of the area has been derived for this air quality assessment, in accordance with the IAQM approach.

Table 23.12: Sensitivity of the area to dust impacts on people and property.

The sensitivity of the area has been derived for demolition, construction, earthworks and trackout.

[a] The total number of receptors within the stated distance has been estimated. Only the highest level of area sensitivity from the table has been recorded.

[b] For trackout, the distances have been measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500m from large sites, 200m from medium sites and 50m from small sites, as measured from the site exit. The impact declines with distance from the site and trackout impacts have only been considered up to 50m from the edge of the road.

Receptor sensitivity	Number of receptors [a]	Distance from the source (m) [b]			
		Less than (<) 20	<50	<100	<350
High	Greater than (>) 100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table 23.13: Sensitivity of the area to PM_{10} impacts on human health.

The sensitivity of the area has been derived for demolition, construction, earthworks and trackout.

[a] This refers to the background concentration derived from the assessment of baseline conditions earlier in this chapter. The concentration categories listed in this column apply to England, Wales, and Northern Ireland but not to Scotland.

[b] The total number of receptors within the stated distance has been estimated. Only the highest level of area sensitivity from the table has been recorded.

[c] For high sensitivity receptors with high occupancy (such as schools or hospitals), the approximate number of occupants has been used to derive an equivalent number of receptors.

[d] For trackout, the distances have been measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500m from large sites, 200m from medium sites and 50m from small sites, as measured from the site exit. The impact declines with distance from the site, and trackout impacts have only been considered up to 50m from the edge of the road.

Receptor sensitivity	Annual mean PM_{10} concentration [a]	Number of receptors [b, c]	Distance from the source (m) [d]				
			<20	<50	<100	<200	<350
High	> 32 µg.m^{-3}	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28 - 32 µg.m^{-3}	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24 - 28 µg.m^{-3}	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
Medium	>32 µg.m^{-3}	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	28 – 32 µg.m^{-3}	>10	High	Medium	Low	Low	Low
		1 – 10	Medium	Low	Low	Low	Low
	< 28 µg.m^{-3}	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
		>1	Low	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Table 23.14: Sensitivity of the area to ecological impacts.

The sensitivity of the area has been derived for demolition, construction, earthworks and trackout and for each designated site.

[a] Only the highest level of area sensitivity has been recorded.

Receptor Sensitivity	Distance from the Source (m) [a]	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

23.4.1.17 The IAQM guidance (IAQM, 2014) lists the following additional factors that can potentially affect the sensitivity of the area. In addition, where necessary, professional judgement has been used to adjust the sensitivity allocated to a particular area:

- Any history of dust generating activities in the area
- The likelihood of concurrent dust generating activity on nearby sites
- Any pre-existing screening between the source and the receptors
- Any conclusions drawn from analysing local meteorological data which accurately represent the area; and if relevant the season during which the works will take place
- Any conclusions drawn from local topography
- Duration of the potential impact, as a receptor may become more sensitive over time
- Any known specific receptor sensitivities which are considered to go beyond the classifications given in the table above.

23.4.1.18 The matrices provided in Table 23.15 below have been used to assign the level of risk for each activity type required during the construction of the Mona Offshore Wind Project.

Table 23.15: Risk of dust impacts for each activity type.

Sensitivity of area	Magnitude of dust impacts		
	Large	Medium	Small
Demolition			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
Earthworks			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Construction			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Trackout			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Negligible
Low	Low Risk	Low Risk	Negligible

23.4.2 Operational Phase

23.4.2.1 As outlined in section 23.5.2 of this chapter above, impacts during the operations and maintenance phase of the Mona Offshore Wind Project have been scoped out of the air quality assessment.

23.4.3 Decommissioning Phase

23.4.3.1 The risk of dust impacts arising during decommissioning of the Mona Offshore Wind project will be the same as (or similar to) the risk of construction dust impacts during the construction phase. Notwithstanding, a Decommissioning Management Plan will be prepared and submitted prior to decommissioning of the Mona Offshore Wind project. The Decommissioning Management Plan will set out the measures required to mitigate potential impacts of dust generated during the decommissioning phase.

23.4.3.2 Decommissioning-related traffic is expected to be lower than the construction phase and the impacts of decommissioning-vehicle exhaust emissions have not been assessed specifically.

23.5 Key parameters for assessment

23.5.1 Maximum design scenario

23.5.1.1 The maximum design scenarios (MDS) identified in Table 23.16 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in volume 1, chapter 3: Project description of the PEIR. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g., different infrastructure layout), to that assessed here be taken forward in the final design scheme.

Table 23.16: Maximum design scenario considered for the assessment of potential impacts on air quality.

[a] C=construction, O=operational and maintenance, D=decommissioning

Potential impact	Phase [a]			Maximum design scenario	Justification
	C	O	D		
The impact of dust soiling (nuisance) on property and an increase in suspended particulate matter arising from dust emissions generated by onsite construction and decommissioning activities.	✓	×	✓	**Construction phase** <u>Open cut trenching along the Onshore Cable Corridor:</u> • The maximum duration of the construction phase for the Onshore Cable Corridor, including 400kV Grid Connection Cable Corridor is 33 months. • The area of the permanent Onshore Cable Corridor is up to 540,000m^2 based on a corridor measuring 30m wide and 18km in length. The temporary working corridor requires an additional 70m wide corridor (making the total width of the Onshore Cable Corridor (temporary and permanent requirements) 100m wide representing an area of up to 1,800,000m^2. • There are up to four cable trenches within the permanent Onshore Cable Corridor, each trench measures up to 2.5m wide at the top, 1.5m at the base and the depth is up to 1.8m. • The maximum number of joint bays along the Onshore Cable Corridor is 96 (based on a minimum distance of 750m between each joint bay on up to four trenches). • The area of each joint bay is up to 200m^2 and each joint bay is 2m deep; the volume of material excavated per joint bay is 400m^3 (a total of up to 38,400m^3 of material excavated for the joint bays). • The maximum number of link boxes along the Onshore Cable Corridor is 96 (based on a distance of 750m between each link box on up to four trenches). • The area of each link box is up to 6m^2 and each link box is up to 1m deep; the volume of material excavated per link box is 6m^3 (a total of up to 576m^3 of material excavated for the link boxes). • There is one haul road within the Onshore Cable Corridor along the length of the corridor; it is 6m wide excluding passing places. It will be constructed using imported engineered granular fill with geotextile style layers with a nominal thickness of 400mm and a maximum thickness of up to 1000mm. <u>Open cut trenching along the 400kV Grid Connection Cable Corridor:</u> • The maximum duration of the construction phase for the Onshore Cable Corridor, including 400kV Grid Connection Cable Corridor is 33 months. • The area of the permanent 400kV Grid Connection Cable Corridor is up to 48,000m^2 based on a corridor measuring 16m wide and 3km in length. The temporary working corridor requires an additional 44m wide corridor (making the total width of the route to grid connection (temporary and permanent requirements) 60m wide representing an area of up to 180,000m^2. • There are up to two cable trenches within the permanent 400kV Grid Connection Cable Corridor, each trench measures up to 2.5m wide at the top, 1.5m at the base and the depth is 1.8m. • The maximum number of joint bays along the 400kV Grid Connection Cable Corridor is 10 (based on a minimum distance of 500m between each joint bay on up to two trenches). • The area of each joint bay is up to 200m^2 and each joint bay is up to 2m deep; the volume of material excavated per joint bay is 400m^3 (a total of up to 4,000m^3 of material excavated for the joint bays). • The maximum number of link boxes along the 400kV Grid Connection Cable Corridor is 10 (based on a distance of 500m between each link box on up to two trenches). • The area of each link box is up to 6m^2 and each link box is 1m deep; the volume of material excavated per link box is 6m^3 (a total of up to 60m^3 of material excavated for the link boxes). • There is one haul road within the 400kV Grid Connection Cable Corridor along the length of the corridor; it is 6m wide excluding passing places. It will be constructed using imported engineered granular fill with geotextile style layers with a nominal thickness of 400mm and a maximum thickness of up to 1000mm. <u>Trenchless techniques</u> • The maximum number of HDD locations along the Onshore Cable Corridor and 400kV Grid Connection Cable Corridor is 60. Primary HDD operations will require a compound, these will measure up to 150m x 100m. Secondary HDDs will require a smaller compound (measuring up to 30m x 20m) and will be located within the 100m temporary construction corridor.	The MDS presents the greatest area required for the construction of the onshore cable trenches, 400kV grid connection cables and the onshore substation; the greatest size of the temporary working areas; the movement of construction vehicles; and the longest duration of construction represents the greatest potential for dust soiling generated by construction and decommissioning activities.
The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓		The MDS presents the greatest area required for the construction of the onshore cable trenches, 400kV grid connection cables and the onshore substation; the greatest size of the temporary working areas; the movement of construction vehicles; and the longest duration of construction represents the greatest potential for dust soiling generated by construction and decommissioning activities.
The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓		The MDS presents the greatest area required for the construction of the onshore cable trenches, 400kV grid connection cables and the onshore substation; the greatest size of the temporary working areas; the movement of construction vehicles; and the longest duration of construction represents the greatest potential for dust soiling generated by construction and decommissioning activities.

Potential impact	Phase [a] C	O	D	Maximum design scenario	Justification
				Construction compounds • Up to two primary construction compounds (each measuring 150m x 150m) and up to 10 secondary construction compounds (each measuring 150m x 100m) will be located along the Onshore Cable Corridor. The compounds will be located within the Mona Proposed Onshore Development Area. Construction compounds will be prepared by removing and storing soils and then constructing hardstanding areas using crushed stone or other suitable material. Onshore Substation • The maximum duration of the construction phase for the Onshore Substation is 33 months. • The maximum footprint of the Onshore Substation will measure up to 125,000m^2 and will be located within the Onshore Substation zone: this area will include the substation buildings and the earthworks to create the platform. The Onshore Substation will comprise up to four buildings. The maximum dimensions of the main building are 20m high, 80m wide and 140m long • A construction compound will be required to support the construction of the substation extending up to 250,000m^2. • Access to the substation will be via a new permanent access road measuring up to 8m wide and 1.2km in length. • The maximum search area for landscape planting around the Onshore Substation is approximately 469,732m^2. This area includes the footprint of the Onshore Substation, landscape planting and the attenuation pond. **Decommissioning phase** • The onshore cable and 400kV grid connection cable would remain in situ but the link boxes would be removed. The onshore substation and access road would be removed.	

23.5.2 Impacts scoped out of the assessment

23.5.2.1 On the basis of the baseline environment and the description of development outlined in volume 1, chapter 5: Project description of the PEIR, a number of impacts are proposed to be scoped out of the assessment for air quality. These impacts are outlined, together with a justification for scoping them out, in Table 23.17 below.

Table 23.17: Impacts scoped out of the assessment for air quality.

Potential impact	Justification
The impact on human and ecological receptors (dust soiling and human health) arising from fugitive dust emissions generated during operation and maintenance.	Activities associated with the operation and maintenance of the onshore transmission assets are unlikely to generate large quantities of dust. Therefore, the potential impact on human or ecological receptors arising from fugitive dust emissions generated during operation and maintenance of the onshore transmission assets is unlikely to be significant and is proposed to be scoped out of the assessment for air quality. This approach was agreed in the Scoping opinion (see Table 23.5).
The impact on human and ecological receptors arising from air emissions generated by vehicle traffic during operation and maintenance.	Operation of the onshore transmission assets will generate a small number of additional two-way vehicle movements as result of staff trips and occasional maintenance activities. However, the additional two-way vehicle movements associated with operation and maintenance of the onshore transmission assets are unlikely to exceed the EPUK & IAQM indicative criteria (see paragraph 23.4.1.1) for an air quality assessment, irrespective of whether the Air Quality Study Area was located within or adjacent to an AQMA. Therefore, the potential impact on human or ecological receptors arising from air emissions generated by vehicle traffic during operation and maintenance of the onshore transmission assets is unlikely to be significant and an air quality assessment is proposed to be scoped out. This approach was agreed in the Scoping opinion (see Table 23.5).
The impact on human and ecological receptors arising from air emissions generated by plants or stacks during operation and maintenance of the onshore transmission assets	The Mona Offshore Wind Project does not include proposals for the construction of plants or stacks which could give rise to air emissions during operation of the onshore transmission assets. Therefore, the potential impact on human or ecological receptors arising from plant or stack emissions is unlikely to be significant and is proposed to be scoped out of the assessment for air quality. This approach was agreed in the Scoping opinion (see Table 23.5).

23.6 Measures adopted as part of the Mona Offshore Wind Project

23.6.1.1 For the purposes of the EIA process, the term 'measures adopted as part of the project' is used to include the following measures (adapted from IEMA, 2016):

- Measures included as part of the project design. These include modifications to the location or design of the Mona Offshore Wind Project which are integrated into the application for consent. These measures are implemented through the consent itself; through the requirements of the DCO or the conditions within the marine licences (referred to as primary mitigation in IEMA, 2016).
- Measures required to meet legislative requirements, or actions that are standard practice used to manage commonly occurring environmental effects (referred to as tertiary mitigation in IEMA, 2016).

23.6.1.2 A number of measures (primary and tertiary) have been adopted as part of the Mona Offshore Wind Project to reduce the potential for impacts on air quality. These are outlined in Table 23.18 below. As there is a commitment to implementing these measures, they are considered inherently part of the design of the Mona Offshore Wind Project and have therefore been considered in the assessment presented in section 23.7 below (i.e. the determination of magnitude and therefore significance assumes implementation of these measures).

Table 23.18: Measures adopted as part of the Mona Offshore Wind Project.

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
Primary measures: Measures included as part of the project design		
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	These measures are based on the highly recommended measures for sites with medium dust risk (IAQM, 2014).	These dust control measures would be included within the Code of Construction Practice (CoCP) and secured as a condition of the DCO.
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.		
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.		
Record all inspections of haul routes and any subsequent action in a site log book.		
Haul routes to be regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.		
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).		
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.		
Access gates to be located at least 10m from residential properties/schools and healthcare facilities where possible.		
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.		
Display the Public Liaison Officer contact information on the site boundary.		
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the complaints log available to the local authority when asked.		

Measures adopted as part of the Mona Offshore Wind Project	Justification	How the measure will be secured
Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.		
Agree dust deposition, dust flux, or real-time PM_{10} continuous monitoring locations with the Local Authority.		
Keep site fencing, barriers and scaffolding clean using wet methods.		
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.		
Cover, seed or fence stockpiles to prevent wind whipping.		
Ensure all vehicles switch off engines when stationary		
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.		
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.		
Use enclosed chutes and conveyors and covered skips.		
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.		
Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.		
Ensure effective water suppression is used any demolition of structures. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.		
Bag and remove any biological debris or damp down such material before demolition.		
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.		
Avoid dry sweeping of large areas.		
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.		
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.		
Tertiary measures: Measures required to meet legislative requirements, or adopted standard industry practice		
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.	These measures are based on the highly recommended measures for sites with medium dust risk (IAQM, 2014).	These dust control measures would be included within the Code of Construction Practice (CoCP) and secured as a condition of the DCO.

23.7 Assessment of significant effects

23.7.1.1 The impacts of the construction and decommissioning phases of the Mona Offshore Wind Project have been assessed on air quality. The potential impacts arising from dust soiling (nuisance) and suspended particulate matter during the construction and decommissioning phases of the Mona Offshore Wind Project are listed in Table 23.24.

23.7.2 Construction phase

Magnitude of impact

23.7.2.1 The dust risk categories that have been determined for the activities have been used to define the appropriate site-specific dust control measures based on those described in the Guidance on the assessment of dust from demolition and construction (IAQM, 2014).

23.7.2.2 The IAQM guidance states that, provided the dust control measures are successfully implemented, the resultant effects of the dust exposure will normally be “not significant”. For those cases where the risk category is negligible, no dust controls are considered necessary.

23.7.2.3 The volume of the structures on site that would be demolished has been estimated to be below 20,000 m^3. Therefore, the dust emission magnitude for the demolition phase is classified, using the IAQM dust guidance, as **small**.

23.7.2.4 Given that the area of the Mona Proposed Onshore Development Area exceeds 10,000m^2, the dust emission magnitude for the earthworks phase is classified, using the IAQM dust guidance, as **large**.

23.7.2.5 The total volume of the buildings to be constructed would be over 100,000 m^3. The dust emission magnitude for the construction phase is classified, using the IAQM dust guidance, as **large**.

23.7.2.6 At this stage, the vehicle movements generated by construction activities and their associated routes, as set out in volume 3, chapter 21: Traffic and transport chapter, are not fixed and likely subject to change post-PEIR. Therefore, impacts arising from tracked out dust will be considered in the Environmental Statement.

Table 23.19: Dust emission magnitude for demolition, construction and earthworks.

Demolition	Earthworks	Construction
Small	Large	Large

Pathway and receptor - sensitivity of the area

23.7.2.7 All demolition, earthworks and construction activities are assumed to occur within the Mona Proposed Onshore Development Area.

23.7.2.8 As such, dust sensitive receptors located within 20m, 50m, 100m, 200m and 350m of the Mona Proposed Onshore Development Area have been considered. Not all distances needed to be considered as the IAQM guidance (IAQM, 2014) states in footnote b of Table 2 "*Estimate the total number of receptors within the stated distance. only the highest level of area sensitivity from the table needs to be considered. For example, if there are 7 high sensitivity receptors < 20 m of the source and 95 high sensitivity receptors between 20 and 50 m, then the total number of receptors < 50 m is 102. The sensitivity of the area in this case would be high*".

23.7.2.9 The sensitivity of the Mona Proposed Onshore Development Area has been classified and the results are provided in Table 23.20 below.

Table 23.20: Sensitivity of the surrounding area for demolition, construction and earthworks.

Potential Impact	Sensitivity of the Surrounding Area	Reason for Sensitivity Classification
Dust Soiling	**Medium**	There are between 10 to 100 high sensitivity receptors (residential properties) located within 20m of the Mona Proposed Onshore Development Area.
Human Health	**Low**	The background PM_{10} concentrations used for the purposes of the assessment was 9.8 $\mu g.m^{-3}$. In addition, there are between 10 to 100 high sensitivity receptors (residential properties) located within 20m of the Mona Proposed Onshore Development Area.
Ecology	**High**	There are several dust sensitive ecological receptors located within 20m of the Mona Proposed Onshore Development Area. These include: • Liverpool Bay SPA (high sensitivity) • Traeth Pensarn SSSI (medium sensitivity) • Limestone and Gwrych Castle Wood SSSI (medium sensitivity) • Several areas of Ancient Woodland (low sensitivity).

Overall dust risk

23.7.2.10 The Dust Emission Magnitude has been considered in the context of the sensitivity of the area to give the dust impact risk.

23.7.2.11 Table 23.21 below summarises the dust impact risk for demolition, earthworks and construction.

Table 23.21: Dust impact risk for demolition, earthworks and construction.

Potential impact	Demolition		Earthworks		Construction	
	Without mitigation	With mitigation	Without mitigation	With mitigation	Without mitigation	With mitigation
Potential impact of dust soiling	Low	Negligible	Medium	Negligible	Medium	Negligible
Potential impact on human health	Negligible	Negligible	Low	Negligible	Low	Negligible
Potential impact on ecology	Medium	Negligible	High	Negligible	High	Negligible
Overall Dust Impact Risk	**Low**	**Negligible**	**Medium**	**Negligible**	**Medium**	**Negligible**

23.7.2.12 Based on the dust emission magnitudes and the receptor sensitivities in the area, and in the absence of the dust controls measures to be included as part of the CoCP (see Table 23.18), the dust impact risk for demolition is categorised as **low** and the dust impact risk for construction and earthworks is categorised as **medium.**

23.7.2.13 However, the IAQM dust guidance states that "*For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'*" (IAQM, 2014). The IAQM dust guidance recommends

that significance is only assigned to the effect after the activities are considered with mitigation in place.

23.7.2.14 Therefore, following the implementation of dust control measures recommended for medium risk sites (see Table 23.18), the dust impact risk for demolition, construction and earthworks associated with construction of the Mona Offshore Wind Project is categorised as **negligible**, which is not significant in EIA terms. In addition, the potential effects of construction dust are predicted to be of local spatial extent, intermittent in frequency and mostly reversible.

Decommissioning

23.7.2.15 The magnitude of dust impacts of decommissioning activities associated with earthworks and trackout are expected to be the same as (or similar to) the impacts from construction at the onshore substation. It is anticipated that the onshore cable corridor and 400kV grid connection corridor left in situ except for the link boxes.

23.7.2.16 No additional construction work is anticipated during the decommissioning phase. The potential impacts during decommissioning of the Mona Offshore Wind Project are expected to be similar to the impacts during demolition, earthworks and construction.

23.7.3 Future monitoring

23.7.3.1 Following the implementation of appropriate recommended mitigation measures (IAQM, 2014) set out in Table 23.18, the air quality effects are not expected to be significant, and no future monitoring is proposed.

23.8 Cumulative effect assessment methodology

23.8.1 Methodology

23.8.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Mona Offshore Wind Project together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see volume 5, annex 5.3: CEA screening matrix). Each project has been considered on a case by case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

23.8.1.2 The air quality CEA methodology has followed the methodology set out in volume 1, chapter 5: EIA methodology of the PEIR. As part of the assessment, all projects and plans considered alongside the Mona Offshore Wind Project have been allocated into 'tiers' reflecting their current stage within the planning and development process, these are listed below.

23.8.1.3 A tiered approach to the assessment has been adopted, as follows:

- Tier 1
  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2
  - Scoping report has been submitted and is in the public domain
- Tier 3
  - Scoping report has not been submitted or is not in the public domain
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes.

23.8.1.4 This tiered approach is adopted to provide a clear assessment of the Mona Offshore Wind Project alongside other projects, plans and activities. The specific projects, plans and activities scoped into the CEA, are outline in Table 23.22.

23.8.1.5 National Grid Electricity Transmission (NGET) are proposing to undertake upgrades to their Bodelwyddan substation; to facilitate the connection of multiple projects (e.g. Awel y Môr Offshore Wind Farm). The upgrades will comprise works to the existing substation, an extension to the substation and associated works and infrastructure (e.g. new overhead gantries).

23.8.1.6 It is understood that works to the existing substation will be undertaken via NGET's permitted development rights. The proposed extension to Bodelwyddan substation will require planning consent. At the time of writing, an application had not been submitted to Denbighshire County Council, but the anticipated timeframe is early 2024. Given that an application has not been submitted, the potential cumulative impacts of the Bodelwyddan upgrade have not been assessed within the PEIR. This will be re-visited in the application for consent for the Mona Offshore Wind Project should further information become available.

Table 23.22: List of other projects, plans and activities considered within the CEA.

Project/Plan	Status	Distance from the Mona Proposed Onshore Development Area (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Tier 1 -						
Awel y Môr Offshore Wind Farm	Submitted but not yet determined	0.0	Awel y Môr Offshore Wind Farm is a project being developed by RWE Renewables (RWE) to the west of the existing Gwynt y Môr Offshore Wind Farm. It is located approximately 10.5km off the Welsh coast in the Irish Sea, with a maximum total area of 78 square kilometres (km^2).	2026 to 2029	2030 to 2055	Construction of Awel y Môr Offshore Wind Farm coincides with the entire four-year construction phase of the Mona Offshore Wind Project (i.e. 2026 to 2029).

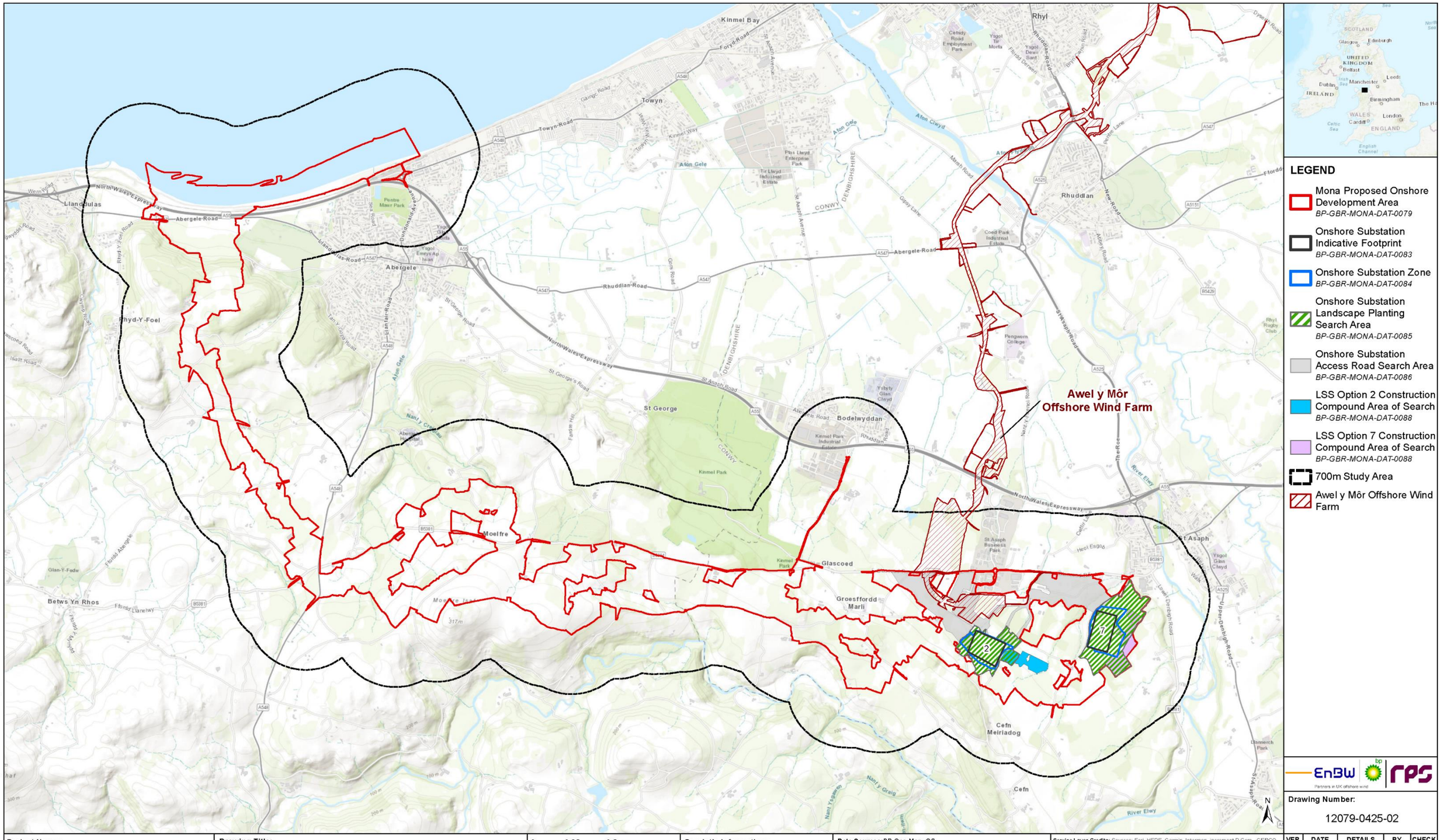

Figure 23.4: Other projects, plans and activities screened into the cumulative effects assessment.

23.8.2 Maximum design scenario

23.8.2.1 The maximum design scenarios identified in Table 23.23 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Project Design Envelope provided in volume 1, chapter 5: Project Description, of the PEIR as well as the information available on other projects and plans, in order to inform a 'maximum design scenario'. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different wind turbine layout), to that assessed here, be taken forward in the final design scheme.

Table 23.23: Maximum design scenario considered for the assessment of potential cumulative effects on air quality.

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
The impact of dust soiling (nuisance) on property and an increase in suspended particulate matter arising from dust emissions generated by onsite construction and decommissioning activities.	✓	✖	✓	Maximum design scenario as described for the Mona Offshore Wind Project (Table 23.16) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm.	The MDS presented in Table 23.16 above identifies the largest geographical area and the longest time period required to complete construction of the Mona Offshore Wind Project. Therefore, the MDS provides the greatest potential for spatial and temporal cumulative effects to occur between the Mona Offshore Project and other projects/plans with respect to air quality.
The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities	✓	✖	✓		
The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities	✓	✖	✓		

23.9 Cumulative effects assessment

23.9.1 Construction

23.9.1.1 There is potential for cumulative effects to occur with other proposed developments within 700m of the Mona Proposed Onshore Development Area during construction of the Mona Offshore Wind Project. However, on the basis that other proposed developments implement suitable primary and tertiary mitigation, as recommended in the Guidance on the assessment of dust from demolition and construction (IAQM, 2014), it is considered that cumulative effects arising during construction of the Mona Offshore Wind Project are **not significant**.

23.9.2 Operation and maintenance

23.9.2.1 The potential impacts with respect to air quality arising from operations and maintenance of the Mona Offshore Wind Project have been scoped out of the assessment.

23.9.3 Decommissioning

23.9.3.1 The potential impacts during decommissioning of the Mona Offshore Wind Project are expected to be similar to the impacts during demolition, earthworks and construction. Therefore, it is considered that cumulative effects arising during decommissioning of the Mona Offshore Wind Project are **not significant**.

23.10 Transboundary effects

23.10.1.1 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to air quality from the Mona Offshore Wind Project upon the interests of other states.

23.11 Inter-related effects

23.11.1.1 Inter-relationships are considered to be the impacts and associated effects of different aspects of the proposal on the same receptor. These are considered to be:

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Mona Offshore Wind Project (construction, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases.
- Receptor led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.

23.11.1.2 A description of the likely interactive effects arising from the Mona Offshore Wind Project on air quality is provided in volume 3, chapter 24: Inter-related effects of the PEIR.

23.12 Summary of impacts, mitigation measures and monitoring

23.12.1.1 Information on air quality within the air quality study area was collected through a desktop review.

23.12.1.2 Table 23.24 presents a summary of the potential impacts, measures adopted as part of the project and residual effects in respect to air quality. The impacts assessed include:

- The potential impact of dust soiling on dust sensitive receptors arising from demolition, earthworks and construction
- The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities
- The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities.

23.12.1.3 Overall, it is concluded that there will be no significant effects arising from the Mona Offshore Wind Project during the construction, operation and maintenance or decommissioning phases.

23.12.1.4 Table 23.25 presents a summary of the potential cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include:

- The potential impact of dust soiling on dust sensitive receptors arising from demolition, earthworks and construction
- The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities
- The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities.

23.12.1.5 Overall it is concluded that there will be no significant cumulative effects from the Mona Offshore Wind Project alongside other projects/plans.

23.12.1.6 No potential transboundary impacts have been identified in regard to effects of the Mona Offshore Wind Project.

Table 23.24: Summary of potential environmental effects, mitigation and monitoring.

[a] C=construction, O=operational and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the surrounding area	Dust Impact Risk	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact of dust soiling (nuisance) on property arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	Medium	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage
The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	Medium	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage
The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	High	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage

Table 23.25: Summary of potential cumulative environmental effects, mitigation and monitoring.

[a] C=construction, O=operational and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the surrounding area	Dust Impact Risk	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact of dust soiling (nuisance) on property arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	Medium	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage
The impact of an increase in suspended particulate matter on people arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	Medium	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage
The impact of an increase in suspended particulate matter on ecology arising from dust emissions generated by onsite construction and decommissioning activities	✓	×	✓	Measures based on the highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Large	High	Medium	No further mitigation required beyond measures based on highly recommended measures for sites with medium dust risk (IAQM, 2014) as set out in Table 23.18 above.	Negligible	The desktop survey is considered sufficient to inform the assessment of construction dust and site specific surveys are not considered necessary at this stage

23.13 Next steps

23.13.1.1 At this stage, the vehicle movements generated by construction activities and their associated routes, as set out in volume 3, chapter 21: Traffic and transport chapter, are not fixed and likely subject to change post-PEIR. Therefore, the potential risk of tracked out dust and air quality effects associated with emissions arising from construction-related traffic will be assessed as part of the Environmental Statement. This will include the identification of mitigation measures appropriate for the level of risk presented by the Mona Offshore Wind Project.

23.13.1.2 However, the level of detail and type of assessment is not known at this stage and will depend on the number of vehicles expected to be generated during the construction phase.

23.13.1.3 Agreement will be sought regarding the methodology and scope of the air quality assessment, including mitigation requirements through consultation with The Environmental Health Officers from relevant local authorities (if required) after the PEIR is submitted.

23.14 References

Conwy County Borough Council (2013) Conwy Local Development Plan 2007-2022 Adopted October 2013. Available at: https://www.conwy.gov.uk/. Accessed: April 2022.

Department for Environment, Food & Rural Affairs Defra (2018), Local Air Quality Management (LAQM) Technical Guidance (TG22) August 2022. Available at: https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf. Accessed: April 2022.

Defra (2022) Background Mapping data for local authorities – 2018. Available at: https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018. Accessed: April 2022.

Denbighshire County Council (2013) Denbighshire County Council Local Development Plan 2006-2021 Adopted June 2013. Available at: https://www.denbighshire.gov.uk/en/planning-and-building-regulations/local-development-plan/adopted-local-development-plan.aspx Accessed: April 2022.

Department of Energy and Climate Change (DECC) (2011a) Overarching National Policy Statements for Energy (NPS EN-1). Available: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf]. Accessed April 2022.

Defra, 2007, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Volume 2.

Department of Energy and Climate Change (DECC) (2011b) National Policy Statement for Renewable Energy Infrastructure. Available: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf]. Accessed April 2022.

Department of Energy and Climate Change (DECC) (2011c) National Policy Statements for Electricity Networks Infrastructure (NPS EN-5). Available: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf]. Accessed April 2022.

EPUK & IAQM (January 2017) Land-Use Planning & Development Control: Planning For Air Quality. Available at: https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf Accessed: April 2022.

Highways England, Transport Scotland, Welsh Government, Department for Infrastructure (2019) Design Manual for Roads and Bridges (DMRB) LA 104, Environmental assessment and monitoring, Revision 1, Available at: https://www.standardsforhighways.co.uk/prod/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a?inline=true Accessed: April 2022.

IAQM (2014) Guidance on the assessment of dust from demolition and construction. Available at: https://iaqm.co.uk/guidance/ Accessed: April 2022.

IEMA (2016) EIA Guide to: Shaping Quality Development. Available at: https://www.iema.net/resources/watch-again/2020/02/13/iema-impact-assessment-guidance Accessed: April 2022.

Wood (2021) North Wales Authorities Collaborative Project 2021 Air Quality Progress Report. Available at: https://www.denbighshire.gov.uk/en/environmental-health/pollution/air-quality.aspx Accessed: April 2022.

Welsh Government (2021) Planning Policy Wales Edition 11. Available at: https://www.gov.wales/planning-policy-wales Accessed: April 2022

Welsh Government (2007) TAN 18: Transport. Available at: https://www.gov.wales/sites/default/files/publications/2018-09/tan18-transport.pdf Accessed: April 2022

bp/EnBW (2022) Mona Offshore Wind Project Scoping Report. Available at: https://infrastructure.planninginspectorate.gov.uk/projects/wales/mona-offshore-wind-farm/ Accessed: April 2022